October 22, 2008

RE: Environmental Assessment (EA) and Application Decision on Schellinger Construction Company, Inc.'s Proposed Amendment to the Jellison Gravel Mining Operation

To Interested Parties:

The Department of Environmental Quality has completed the EA on this proposal, which consists of increasing the area of mining from 20 to 54.8 acres and expanding the final reclaimed pond from 5 to 25 acres. The permit area would remain at 80 acres. The EA and this transmittal letter are available on the DEQ website at http://www.deq.mt.gov/ea/opencut.asp.

The Department has determined that Schellinger Construction Company, Inc.'s permit amendment application complies with the provisions of the Opencut Mining Act. Therefore, in conjunction with completing this EA, the Department has approved the amendment application, subject to the following condition: "In association with Glacier Park International Airport, other operators in the vicinity, and DEQ, Schellinger Construction must participate in the development and implementation of a waterfowl monitoring/hazard mitigation plan, if such a plan is deemed necessary in the future by DEQ."

Questions regarding the above matters may be directed to Rod Samdahl, Opencut Mining Program Reclamation Specialist (406-755-8985; rsamdahl@mt.gov), or me.

Sincerely,

Neil Harrington, Chief
Industrial and Energy Minerals Bureau
Phone: (406) 444-4973
Fax: (406) 444-1923
E-mail: neharrington@mt.gov

NH/nh

ENVIRONMENTAL ASSESSMENT

October 2008

PROPONENT:	Schellinger Construction	**SITE NAME:**	Jellison
LOCATION:	N2 S2, Sec 36, T30N, R21W	**COUNTY:**	Flathead

TYPE AND PURPOSE OF ACTION:

Within Schellinger's original 2002 permit for 80 acres, the company proposes to amend the permit to increase the mine area from 20 to 54.8 acres, and to expand the pond from 5 to 25 acres. This expansion is within the original 80-acre permit issued to remove 1.5 million cubic yards of material, leaving a lake as the reclaimed use. The site is located 9 miles northeast of Kalispell (see FIGURE 1 – Location Map). It is currently a flat-lying grain field located along the east side of Jellison Road. The site elevation is approximately 2965 feet MSL. There is one residence owned by the applicant and surrounded by trees on the north side of the permit area. There are two Bonneville Power Administration power line towers, which will not be disturbed. No other existing manmade features are to be affected by this operation. The LaSalle Sand & Gravel Pit is located adjacent to the south and the Goose Bay gravel pit is located to the north of this site.

The 2002 permit allowed only 5 acres to be dug into the groundwater to form a beginning lake. The intent of the 5-acre limit was to allow incremental growth of the open water in this area to watch for reports of changes in bird activity that could endanger aircraft traffic at the nearby airport. DEQ is unaware of any information or reports of changes in bird activity since the first pond was approved for the adjacent LaSalle Sand & Gravel mining permit in 1997. This amendment includes a new map that shows the finished shape of the lake (see FIGURE 2 – Site Map). The facility currently includes an asphalt batch plant that has been in operation for several years and a fuel storage area. Schellinger is also requesting to implement a Groundwater Quality Monitoring and Contaminant Detection Response Plan for better protection of the groundwater.

The applicant would reclaim the site to grassland with a 25-acre pond. The pond portion of the site would be excavated approximately 30 feet deep and would be reclaimed according to DEQ pond guidelines for a fishery and by contouring the remainder of the site and grading slopes to no steeper than 3:1 below the water line and 5:1 above the water line, re-soiling and reseeding to grass. Final reclamation would be done by September 2020. Hours of operation at this site remain unchanged as 7:00 a.m. to 7:00 p.m., Monday through Friday, with maintenance any time. The hours under the existing plan may be extended for large projects to 6:00 a.m. to 10:00 p.m., Monday through Saturday for periods of 15 days at a time to correspond with typical Montana Department of Transportation highway project hours. Extensions of this kind must be separated by 60 days.

This environmental assessment (EA) is required under the **Montana Environmental Policy Act (MEPA)**. An EA functions to identify, disclose and analyze the impacts of an action, in this case operating a gravel pit on which the state must make a decision, so that an informed decision can be made. MEPA sets no environmental standards, even though it requires analysis of both the natural and human environment. This document may disclose many impacts that have no legislatively required mitigation measures or over which there is no regulatory authority. The state legislature has provided no authority in MEPA to allow DEQ or any other state agency to require conditions or impose mitigations on a proposed permitting action that are not included in the permitting authority and operating standards in the governing state law, such as the Opencut Mining Act, the Clean Air Act of Montana, or any other applicable state environmental regulatory law. Beyond that, a company may agree to voluntarily modify its proposed activities or accept permit conditions.

The state law that regulates gravel-mining operations in Montana is the **Opencut Mining Act**. This law and its approved rules place operational guidance and limitations on a project during its life, and provide for the reclamation of land subjected to Opencut materials mining. This law requires that a surety bond, cash deposit or other financial instrument be submitted to the state to cover the complete costs of reclaiming the site to its approved, post-mining land use, if the permittee fails to reclaim the site as required by the law, the rules, and the permit.

The permit decision cannot be based upon the popularity of the project, but upon whether or not the proponent has met the requirements of the Opencut Mining Act, pursuant rules, and other laws pertaining to his proposed actions.

IMPACTS ON THE PHYSICAL ENVIRONMENT

RESOURCE AND EXAMPLE/GUIDANCE QUESTIONS	POTENTIAL IMPACTS AND MITIGATION MEASURES
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE	The proposed mine is located in flat terrain formed by an old river terrace above the Flathead River. The deposit consists of alluvial and re-worked glacial outwash deposits. These deposits overlie glacial till or lakebed sediments. Test holes on the property indicate the average topsoil depth is 8 inches and the underlying gravelly clay (i.e. overburden layer) ranges from 12 to 60 inches. This material would be salvaged and stockpiled away from the pit, roads and facility areas. Following mining, grading and ripping, the soils would be replaced, disked and seeded to grass around the pond. There are no fragile, compactable or unstable soils present, no unusual geologic features and no special reclamation considerations.
2. WATER QUALITY, QUANTITY AND DISTRIBUTION	The Evergreen aquifer occupies approximately 40 square miles between the Whitefish and Flathead Rivers (LaFave et al, 2004). The aquifer is very productive, with reported well yields of up to 1,500 gpm, although the median well yield is 30 gpm. The median reported static water level is 12 feet below the land surface, and approximately 14 feet in the permit area. Long-term water level measurements in the Evergreen aquifer show that water levels rise annually 1 to 1.5 feet during the spring and early summer months, peaking in May or June in response to recharge from runoff, snowmelt, and rainfall (LaFave et al, 2004). Water levels decline during the late summer when river flows decline and evapotranspiration and groundwater use are highest. According to Groundwater Information Center (GWIC) records of MBMG (2007), there are 39 water wells located in Section 36, Township 30 North, Range 21 West in Flathead County, with an average depth of 83 feet (See table below). The wells in this area are a mix of domestic, irrigation and stock water wells. These wells are relatively shallow, and they have high yields averaging 70 gallons per minute. This operation would intercept groundwater in order to create a pond, and would have no discharge into flowing surface water.

Gwic Id	Site Name	Location	Td	Swl	Yield	Date	Use
6618		30N 21W 36 CCCC	17.90	8.02			DOMESTIC
86408	BROAD HAROLD	30N 21W 36 CCA	25.00	13.00	20.00	4/28/1979	DOMESTIC
218362	BROAD HAROLD	30N 21W 36 CC	131.00	20.00	55.00	3/9/2005	DOMESTIC
200052	BUSH CLARICE	30N 21W 36 BBB	29.20	17.50	40.00	5/15/2002	DOMESTIC
182470	BUSH DAN & IVETA	30N 21W 36 BBB	159.00	20.00	60.00	3/17/2000	DOMESTIC
86407	COXWORTH BRUCE	30N 21W 36 CC	26.00	16.00	20.00	4/4/1980	DOMESTIC
86409	DETOLLA RUDOLPH	30N 21W 36 CCC	25.00	13.00	20.00	4/6/1977	DOMESTIC
169433	GOODE GREG	30N 21W 36 CD	30.00			12/17/1998	DOMESTIC
86410	GRAHAM FRANCIS & PATRICIA	30N 21W 36 DDD	77.00	11.00	35.00	4/28/1986	DOMESTIC
140069	GRAHAM NEIL	30N 21W 36 DDDC	39.00				DOMESTIC
127691	GREENE LEONARD M	30N 21W 36 AAB	80.00	10.50	17.00	11/15/1991	DOMESTIC
86398	GREENE LEONARD M.	30N 21W 36 ABA	118.00	13.00	30.00	10/14/1982	DOMESTIC
86399	GREENE LEONARD M.	30N 21W 36 ABA	97.00	12.00	30.00	10/20/1982	STOCKWATER
86403	GUNDERSON LESLIE E.	30N 21W 36 BD	140.00	40.00	30.00	2/16/1977	DOMESTIC
164718	HENDRIX JACK	30N 21W 36 CCD	129.00	14.00	30.00	10/2/1997	DOMESTIC
86401	J.D. TIRE	30N 21W 36 BBC	158.00	15.00	45.00	9/18/1984	DOMESTIC
703135	JAMES EDMISTON	30N 21W 36 CB	17.00		1,200.00	10/31/1966	IRRIGATION
86395	KERZMAN DAVE	30N 21W 36	22.00	13.00	20.00	4/9/1977	DOMESTIC

166557	LASALLE SAND & GRAVEL * WELL #1	30N 21W 36 CDC	20.50	14.10		12/15/1997	MONITORING
166559	LASALLE SAND & GRAVEL * WELL #2	30N 21W 36 CDD	20.40	14.80		12/15/1997	MONITORING
162511	MARTY ILEEN	30N 21W 36 CCC	25.00	10.00	35.00	5/31/1997	DOMESTIC
86404	MCDONALD PANSY	30N 21W 36 CAB	16.00	6.00		1/1/1916	DOMESTIC
86405	MCDONALD PANSY I.	30N 21W 36 CAB	21.00	6.00		1/1/1957	DOMESTIC
134306	MCLEAN DIANE SONGERS	30N 21W 36 BBB	25.00	17.00	14.00	10/27/1992	DOMESTIC
223832	OLSEN GLENN	30N 21W 36 CC	221.00	18.00	27.00	12/13/2005	DOMESTIC
140068	OWNER UNKNOWN	30N 21W 36 CCCC	58.00				UNKNOWN
169432	PETERS TERRY	30N 21W 36 BC	31.00			1/11/1999	DOMESTIC
125979	PETERS TERRY	30N 21W 36 BC	31.00	17.00	30.00	10/27/1990	DOMESTIC
212340	SANDERS, RAY	30N 21W 36 BB	200.00	25.00	40.00	7/6/2004	DOMESTIC
86396	SLUSHER TERRY D	30N 21W 36	185.00	162.00	15.00	4/2/1979	DOMESTIC
129517	STEVENSON KATE	30N 21W 36	295.00	250.00	15.00	12/11/1985	DOMESTIC
86406	SYTH LEON	30N 21W 36 CC	200.00	28.00	50.00	1/7/1984	DOMESTIC
215736	SYTH LEON	30N 21W 36 CCBA	125.00	23.50	30.00	3/25/2003	DOMESTIC
180892	TELCO ALAMON	30N 21W 36 BBC	30.00	16.00	20.00	11/30/1999	DOMESTIC
162496	THORP DOUGLAS & SUE	30N 21W 36 CC	30.00	7.00	75.00	4/18/1997	DOMESTIC
235256	TONY BUSH	30N 21W 36 BDBC	32.00	19.00	20.00	12/8/2006	DOMESTIC
86397	WATSON GARY	30N 21W 36	300.00	250.00	35.00	9/21/1981	UNKNOWN
164717	WENDT JIM	30N 21W 36 CCA	27.00	10.00	15.00	7/26/1997	DOMESTIC
86402	ZIMBELMAN GILBERT	30N 21W 36 BC	26.00	18.00	15.00	2/9/1989	DOMESTIC

Special precautions would be taken to prevent contamination of the groundwater. The new Groundwater Quality Monitoring and Contaminant Detection Response Plan would be implemented to monitor the groundwater and to provide a mechanism for appropriate response in the event of a fuel or other spill. All bulk fuel and asphalt-related hydrocarbon materials would be stored onsite within an earthen-bermed, PVC-lined lined tank farm (see FIGURE 3). Vehicles and equipment would be refueled with a fuel truck inside the containment area. Any overspill would thereby be contained and removed. Four dedicated monitoring wells have been constructed and are currently utilized to observe and record any changes in water level and water quality at the site. Water quality is monitored quarterly for volatile petroleum hydrocarbon (VPH), extractable petroleum hydrocarbon (EPH), static water level, temperature, pH, and specific conductivity for the duration of the gravel pit. Any accidental spills or leaks from equipment would be excavated and contaminated materials would be properly disposed of. No waste or trash other than clean fill would be disposed of at the site. With these precautions, the quality and quantity of the groundwater should not be adversely impacted.

Cumulative Impacts

Six gravel mining operations occupy a permitted or proposed permitted area of slightly more than 2/3 of a square mile within Section 36, Township 30 North and Section 2, Township 29 North, Range 21 West in Flathead County. All of these gravel operations have post-mining pond areas either approved or proposed as part of their reclamation process. The final total pond area among these six operations would likely increase to between 120 to 180 acres by the time mining is complete, under the long-term plans of these operations. Potential cumulative impacts from post-mine ponds are discussed below.

Water levels: Given the high yield of the shallow Evergreen aquifer, water level or flow rate is not likely to be significantly affected by the post-mine ponds. Increasing pond surface area would increase evaporation but would not measurably affect water levels. Domestic well supply in the vicinity of the ponds would not be diminished. Well hydrographs do not show long-term water level declines or increases, suggesting the Evergreen aquifer is in hydraulic equilibrium: the amount of water entering and leaving the aquifer on an annual basis is consistent (LaFave et al, 2004).

Springs: There are no springs or springbrooks within the proposed mine area or immediate area. Groundwater should not be disrupted by the presence of the reclamation pond. Groundwater levels would not be affected as previously discussed.

Flow patterns: Depending upon the gradient of the water table, a large pond would be more likely

	to influence local flow patterns than small ponds. Expansion of pond areas may need to take into account potential influences on local flow patterns. The proposed reclamation pond has been designed to coexist with the general groundwater flow direction. Heating: Increased pond surface area may have a minor, localized effect on groundwater temperatures due to heating in the pond during the summers from exposure to sun and cooling during the winters due to ambient air temperatures. The high transmissivity of the Evergreen aquifer, moderate ambient air temperatures in the Kalispell Valley, depth of the ponds and mixing with downgradient groundwater make significant heating of the aquifer or river unlikely. Studies indicate that pit ponds have minimal impacts on ground water temperatures and that these minor effects are dissipated within tens to hundreds of meters of the pit (Ostrander et al, 1998). Monitoring for potential thermal changes downgradient of the pit ponds as they develop could help in estimating cumulative impacts in the aquifer and Flathead River. Monitoring programs are currently in place at several other gravel sites with ponds in the area including the Goose Bay, LaSalle Sand & Gravel, Paveco and the Sandon and Homann ponds by White Rock. Temperature data is being collected from these other operations and will contribute to the accuracy of assessing any thermal impacts within the aquifer. Aquatic life: Removal of gravel also removes interstitial fauna within the floodplain gravels. A study shows that distribution and abundance of these interstitial fauna is determined by habitat variables within the aquifer (Ward et al, 1994). Studies regarding changes in faunal distribution patterns, abundance and changes in habitat caused by open pit mining and potential effects to Flathead River biota have not been undertaken and therefore, the cumulative impacts are difficult to predict. Given the size of the Evergreen aquifer (approximately 40 square miles) and the wide distribution of interstitial fauna within the aquifer, removal of 120 to 180 acres of the aquifer would be expected to affect only a small portion of the population. More data would need to be gathered to more precisely address this impact. Water quality: The greatest potential for contamination during mining is associated with the use of petroleum products for fuels. Measures are taken at this and other mine sites in the area to prevent likely introduction of petroleum products to groundwater (See discussion above in this section). Upon completion of mining, land surrounding post-mining ponds would be soiled and seeded to stabilize areas adjacent to the pond and decrease the likelihood of soil-borne surface contaminants (e.g. nutrients) washing into the pond. Post-mining ponds are anticipated to be in low-intensity agricultural and residential settings and add aesthetic and recreational opportunities for local residents. Although the presence of natural or constructed ponds may increase the vulnerability of shallow groundwater to surface contamination, the setting of these ponds should decrease the likelihood of significant surface contamination from land uses.
3. AIR QUALITY	Air quality would not be degraded and there would not be an increase in particulate matter during times of operation as a result of this amendment. Dozers, loaders, crushers and trucking equipment typically cause dusty conditions in disturbed soil sites. Dust would be controlled around the site by water truck and dust suppressant. Crushers and asphalt batch plants are regulated for emissions and the equipment used must be tested and approved by the DEQ (Air Resources Management Bureau). The site is not within a Class I airshed.
4. VEGETATION COVER, QUANTITY AND QUALITY	There are no known rare or sensitive plants or cover types present in the site area. Vegetation consists of wheat and pasture grasses. They would be removed as soil is stripped and the site would be replanted with grass species compatible with the proposed reclaimed use.
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS	The land has been cultivated for wheat production, but because of its location still provides limited habitat. Occasional deer, rodents, song birds, coyotes, raptors, and other animal species frequent the site. Population numbers for these species are not known. These animals would be displaced on a small scale as mining progresses, but some would re-inhabit the area as reclamation follows behind mining. Permanent impacts on wildlife are considered to be minimal. Fish and waterfowl would replace some of the existing dryland species as habitat changes from dryland grass to aquatic.
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED	Site evaluations have not revealed any endangered or threatened plant or animal species that would be directly affected. Bald eagles and great blue herons are known to range all along the Flathead River Valley, but no nesting sites are known on or near the proposed permit area. No adverse

ENVIRONMENTAL RESOURCES	effects are anticipated on the eagles or herons as a result of this proposed action.
7. HISTORICAL AND ARCHAEOLOGICAL SITES	Although there are cultural values in the general area, much of this site has been previously disturbed by modern man by logging and farming, thus altering the integrity of resources that may have existed. A surface reconnaissance did not discover any cultural, historical or archeological resources. The operator would give appropriate protection to any values or artifacts discovered in the affected area. If significant resources are found, the operation would be routed around the site of discovery for a reasonable time until salvage could be conducted. The State Historic Preservation Office would be promptly notified.
8. AESTHETICS	The site is located in an agricultural area with industrial development. There would be very little alteration of aesthetics as a result of this amendment while mining is under way. Reclamation would return the area to a visually acceptable landscape. This project is considered to be long-term, i.e., planned to take 12 years to complete. Visual: The site is visible by a limited number of homes, businesses and roads in the local area. Hours of operation for the site are currently 7:00 am to 7:00 pm, Monday through Friday and may be extended for 15 working days from 6:00 am to 10:00 pm, Monday through Saturday as needed for special projects. Any 15-day extension must then be separated by 60 days for the next extension. Maintenance may occur at any time. Noise: Noise levels generated by a crusher, asphalt plant, dozers, loaders and truck traffic hauling to off-site projects at the pit are generally within the range of 60 to 90 decibels measured on-site, decreasing with distance. As a comparison, sound levels for ordinary activities such as close conversation at 60 decibels and music from a radio at 70 decibels are considered to be moderate. Levels above 90 decibels lasting 8 hours or more are severe, and prolonged exposure to employees on site without hearing protection could lead to hearing loss. Noise decreases with distance. A crusher noise level of 85 decibels measured at 50 feet reduces to 79 decibels at 100 feet, 72 decibels at 200 feet and 65 decibels at 400 feet. Thus, the noise level would be reduced to moderate levels at the permit boundary and would continue to decline beyond that. Noise is not cumulative. A truck operating at 65 decibels and a loader at 75 decibels do not add up to the equivalent of a 140-decibel jet plane at takeoff. Traffic: Access to Hwy 2, a 5-lane, 70-mile-per-hour paved highway, is available via Pioneer Road and Jellison Road at the north end. The intersection with Helena Flats Road offers an additional route for trucks to go south. Helena Flats and Jellison Roads are 22-foot to 24-foot wide paved county roads in good condition. Estimated traffic from this site is approximately 41 loaded trucks and 41 returning empty trucks per day based on 12 cubic yard dump trucks hauling 300 cubic yards each working day (Traffic Impact Study, 2007) Thus, 1,185,000 cubic yards ÷ 12 years ÷ 200 working days per year ÷ 12 cubic yards per truck = 41 loaded trucks per day. Traffic counts would not change from current levels as a result of this amendment. The original permit anticipated this level of use at the time it was issued in 2002. Level of Service (LOS): The Transportation Research Board's Highway Capacity Manual rates intersections for delays as A through F (A being the least delay) and has determined that a LOS rating of C or better is acceptable during peak traffic hour conditions. It is estimated that the Pioneer Road/Hwy 2 intersection, which has a LOS rating of C with delays of around 21.3 seconds, would not change.
9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY	There are no unusual demands on land, water, air or energy anticipated as a result of this project.
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES	There is concern in this area by Glacier Park International Airport about the activities of waterfowl and what possible risks creating open water bodies by gravel mining operations might have on aircraft flight around the runways. There have been no local studies that have investigated this situation. However, DEQ performed a search for information on this issue, as well as evaluating habitat factors near the Glacier Airport, in 2003. Some key elements in that assessment are

discussed below.

Aircraft collisions with wildlife (wildlife strikes) are recognized in the aviation community to be a substantial hazard. Due to the nature of aircraft operation (i.e. flight) most occurrences of wildlife strike take place between avian species (birds) and aircraft.

Attractants

FAA Advisory Circular (FAA AC) 150/5200-33A (Federal Aviation Administration 2004) addresses land uses that attract wildlife and create hazards to airports and air-traffic operations. Land use features around an airport are significant factors regarding the wildlife strike hazard. Features such as waste management and water management facilities (i.e., landfills and sewage treatment operations), wetlands, dredge spoil containment areas (i.e., disposal sites for dredged materials), agricultural activities, golf courses, and landscaping are the major categories in the FAA AC.

The creation of ponds is not considered a major category in the FAA AC. However, synergistic effects can be created when a new land use is developed close to an airport. Creating a pond on one side of an airport while food sources exist on the other side falls under the category of a synergistic effect. The pond itself may only attract a few animals; however, if it becomes a nesting or dabbling (e.g. bathing, resting) ground to access the food source, this could create a concentration of birds with a flyway across the airport.

Other Operations

Six adjacent gravel mining operations would occupy a permitted area of slightly more than 2/3 of a square mile within Sections 36 and 2. These operations are located across Highway 2 from Glacier Park International Airport. All of these gravel operations have post-mining pond areas either approved or proposed as part of their reclamation process. The final total pond area among these six operations would likely increase to between 120 to 180 acres by the time mining is complete, under the long-term plans of these operations.

Using a 10,000-foot radius, as suggested in the FAA AC, around Glacier Park International as a target buffer zone of interest, the surface water ponds and channels were identified around Glacier Park International Airport.

The airport is situated between two rivers that appear to contain much more desirable waterfowl habitat than would be created by gravel mining. Over 4 miles of the Whitefish River run within 10,000 feet of the west side of the runway. The Flathead River adds a substantial acreage of natural habitat slightly east of the 10,000 foot zone. Additionally, inside the 10,000 foot zone the Goodrich Bayou adds approximately 11 acres of natural waterfowl habitat.

Also, there is potential additional habitat in the form of unnamed streams within 10,000 feet of the airport. Assuming the unnamed streams are an average of 5 feet wide and have water in them for a substantial part of the year, approximately 23 acres of stream channel area occur in this zone. If the same unnamed streams are assumed to be 10 feet wide, 45.5 acres of stream channel area are within the 10,000 foot radius. Unnamed stream drainage channel lengths derived using stream reach lines from the USGS NHD Geodatabase was estimated at approximately 38 miles in the DEQ assessment.

Since the first of these ponds was opened up by LaSalle Sand & Gravel in 1997, DEQ is unaware of any information or reports of changing behavior by waterfowl at the airport.

Conclusions

Glacier Park International Airport is situated adjacent to six existing gravel mining operations with a gravel resource located below the water table and attractive to the mine industry due to local product demand. All of the operators have requested establishment of ponds as part of their final reclamation.

One important consideration in constructing a water body in the vicinity of an airport is its

	orientation to the runway. It was theorized that not constructing ponds directly in the take-off and approach paths of planes might help decrease the likelihood of bird strikes. Other factors contributing to bird strikes to consider are food sources and their proximity to water bodies around a runway. All of the gravel operations are slightly out of the direct path of take-off and approach of the aircraft runways. There is the potential that the final total pond area among these six operations would likely increase to between 120 to 180 acres by the time mining is complete, under the long-term plans of these operations. However, the two rivers and the streams within 10,000 feet of the airport create an estimated 85-100 acres of real or potential native habitat in all directions from the airport that contain much more desirable waterfowl habitat than would be created by gravel mining. Additionally, considering food sources, the dominant land use within this 10,000-foot zone is agriculture, another attractant for birds. The distribution of both native and artificially created waterfowl habitat and food sources around the airport indicates a complex mosaic of real and potential habitat that does not provide a clear picture of risk to aircraft of waterfowl behavior. The ponds would likely not be the most attractive habitat, and during mining, unattractive. Completion of mining for these permits would occur in the time period from 2015 to 2025. In the next 10 – 20 years, land uses within this area may change due to the expected continuation of high growth and development in the valley, and the ponds may be more or less desirable, depending on the nature of such land use changes. The native habitat already present contain much more desirable waterfowl habitat than would be created by gravel mining. DEQ continues to inquire about waterfowl activities and remains receptive to input from state, federal and local entities. According to the US Fish & Wildlife Service, there have not been any reports of bird activities in the past decade that were a result of gravel mining in the area (Bodurtha, 2008). Nevertheless, it is recommended that a program be set up to monitor waterfowl activity around the airport and the mines, if deemed to be necessary in the future by DEQ.

IMPACTS ON THE HUMAN POPULATION

RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
11. HUMAN HEALTH AND SAFETY	Heavy equipment and facilities including crushers, trucks and loaders would create hazards, but the operator must comply with all MSHA and OSHA regulations. The operator must employ proper precautions to avoid accidents. This proposed operation should not significantly affect human health.
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION	The acreage listed in the Type and Purpose of Action would be taken out of agricultural use and put into industrial/commercial use. Upon completion of mining, the land would be reclaimed to a pond and residential use.
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT	Existing employees would mainly be utilized for this operation. There is low potential that this project would create a significant number of new jobs.
14. LOCAL AND STATE TAX BASE AND TAX REVENUES	Additional taxes may be generated for the county and state in the form of income to the applicant and fuel and highway taxes paid by hauling equipment.
15. DEMAND FOR GOVERNMENT SERVICES	The operation would require periodic site evaluations by DEQ staff until such time as the site is successfully reclaimed to the required post-mining use. However, these evaluations are usually performed in conjunction with other area operations.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS	City/County zoning clearance has been obtained.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS	No wilderness or recreational areas are nearby or accessed through this tract.

ACTIVITIES	
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING	The project would not add to the population or require additional housing.
19. SOCIAL STRUCTURES AND MORES	The area is rural with limited residences in the immediate area. The surrounding area has seen several large gravel pit operations go in during the past 10 years as well as a trailer subdivision. This proposal was designated for gravel pit use in the area in 2002. The traditional land use has been agricultural, but the area is also underlain by a high quality deposit of sand and gravel.
20. CULTURAL UNIQUENESS AND DIVERSITY	This area is gradually shifting from agricultural to commercial and residential.
21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES	None known.

Alternatives Considered:

A. <u>Denial</u>: The Department would deny an incomplete application or one that does not comply with the Act or Rules. The proponent could then submit a modified application or submit an application for another site.

B. <u>Approval of the application with mitigating conditions</u>: The Plan of Operation has been written with mitigating conditions including hours of operation, water protection, soil salvage and full reclamation. Approval would include adoption of the proposed Groundwater Quality Monitoring and Contaminant Detection Response Plan. Also, the following mitigation is proposed as a condition of approval of the proposed amendment.

In association with Glacier Park International Airport, other operators in the vicinity, and DEQ, Schellinger Construction must participate in the development and implementation of a waterfowl monitoring/hazard mitigation plan, if such a plan is deemed necessary in the future by DEQ.

Public Involvement, Agencies, Groups, or Individuals contacted:

The Flathead County Weed Control District and the Flathead County Planning and Zoning.

Other Governmental Agencies with Jurisdiction, List of Permits Needed:

Mine Safety and Health Administration for safety permit; DEQ for Air Quality Permit.

Magnitude and Significance of Potential Impacts:

Impacts are unlikely to be significant on the general environment because of the scope and location of the project, the lack of significant or threatened wildlife or habitat, and because of the protective conditions contained in the Plan of Operation. The amendment would also implement a new water monitoring plan, which will be more effective towards protecting groundwater.

Regulatory Impact on Private Property:

The analysis conducted in response to the Private Property Assessment Act (PPAA) indicates no impact is expected on the use of private property. The Department does not plan to deny the application or impose conditions that would restrict the use of private property so as to constitute a taking. See attachment for PPAA checklist assessment.

References cited:

Bird Strike Committee-USA. Significant Bird and other Wildlife Strikes. Http//www.birdstrike.org/commlink/signif.htm

Bodurtha, Tim. 2008. Personal communication on July 18, 2008.

Cleary, E. C., R. A. Dolbeer and S. E. Wright. 2004. Wildlife Strikes to Civil Aircraft in the United States 1990-2003: Prepared for Federal Aviation Administration, National Strike Database, Serial Report Number 10.

Federal Aviation Administration. July 24, 2004. Advisory Circular 150/5200-33A; Hazardous Wildlife Attractants on or Near Airports.

LaFave, John I., Larry N. Smith, and Thomas W. Patton. 2004. Ground-Water Resources of the Flathead Lake Area: Flathead, Lake, Missoula, and Sanders Counties, Montana, Montana Ground-Water Assessment Atlas 2.

Montana Bureau of Mines and Geology. 2007. Groundwater Information Center Report for Well Records in Sections 36 of Township 30 North and Sections 1 and 2 of Township 29 North, Range 21 West, Flathead County.

Morgenroth, C. Recommendations for the Official Approval of Gravel Excavations Below Groundwater Level with a View to Bird Strike Prevention. Prepared for German Bird Strike Committee.

Noble, R.A. and J.A. Stanford. 1986. Ground-water Resources and Water Quality of Unconfined Aquifers in the Kalispell Valley, Montana. Montana Bureau of Mines and Geology, Open File Report 177.

Ostrander, M.D., P.J. Martin, B. Blackport and M. Picotti. 1998. Impact of Aggregate Extraction Activities on Cold Water Discharge. Groundwater in a Watershed Context. Canadian Water Resources Association.

Raisch, R.W. and R.K. Jeffry. 1988. PM-10 Chemical Mass Balance Study for Kalispell, Montana. Air Quality Bureau, Department of Health and Environmental Sciences, Helena, Montana.

Stanford, J.A., J.V. Ward and B.K. Ellis. 1994. Ecology of the Alluvial Aquifers of the Flathead River, Montana. In: Gilbert J., Danielopol, D.L. & Stanford, J.A. (Eds.): Groundwater Ecology: 367-390. Academic Press, Inc., San Diego, California.

Traffic Impact Study, White Rock Aggregate. 2007. Larsen Engineering & Surveying, Inc., P.C.

Ward, J.V., J.A. Stanford and N.J. Voelz. 1994. Spatial Distribution Patterns of Crustacea in the Floodplain Aquifer of an Alluvial River. Hydrobiologia, 287: 11-17.

RECOMMENDATION FOR FURTHER ENVIRONMENTAL ANALYSIS:

☐ EIS ☐ MORE DETAILED EA ☒ NO FURTHER ANALYSIS

Written By:	**Rod Samdahl, Reclamation Specialist**		

Reviewed By:	**Neil Harrington, Chief, Industrial and Energy Minerals Bureau**		

FIGURE 1 – LOCATION MAP

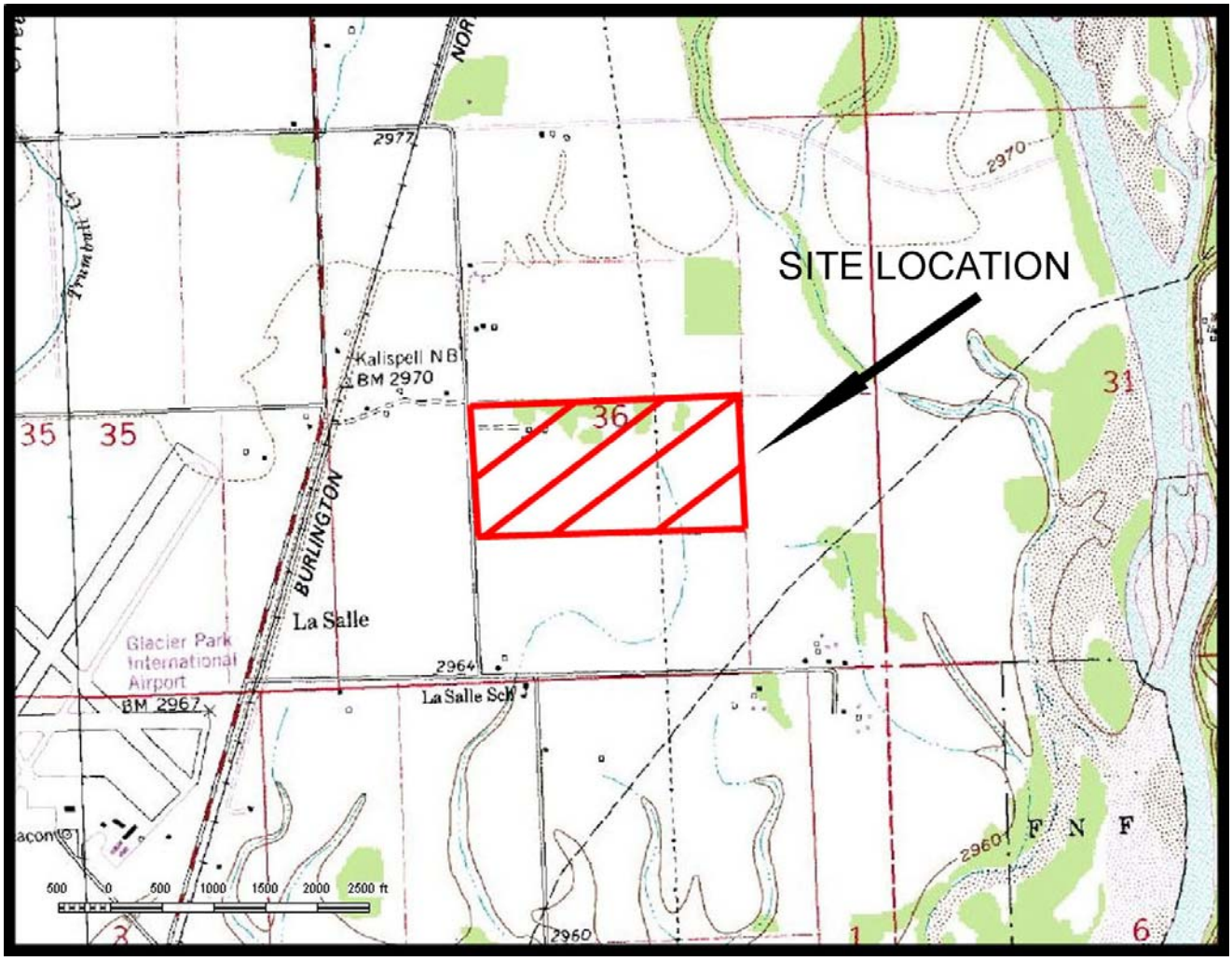


FIGURE 2 – SITE MAP

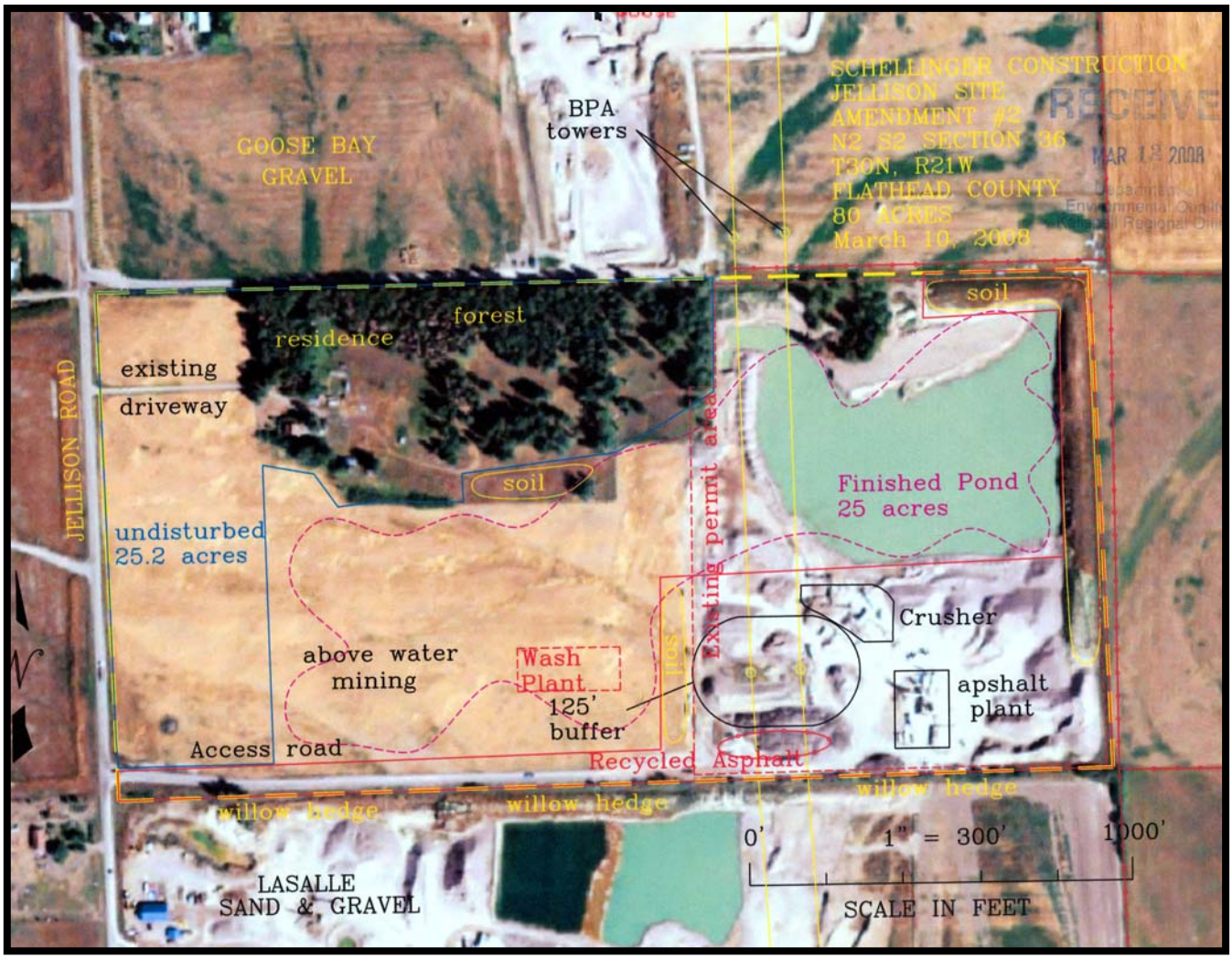
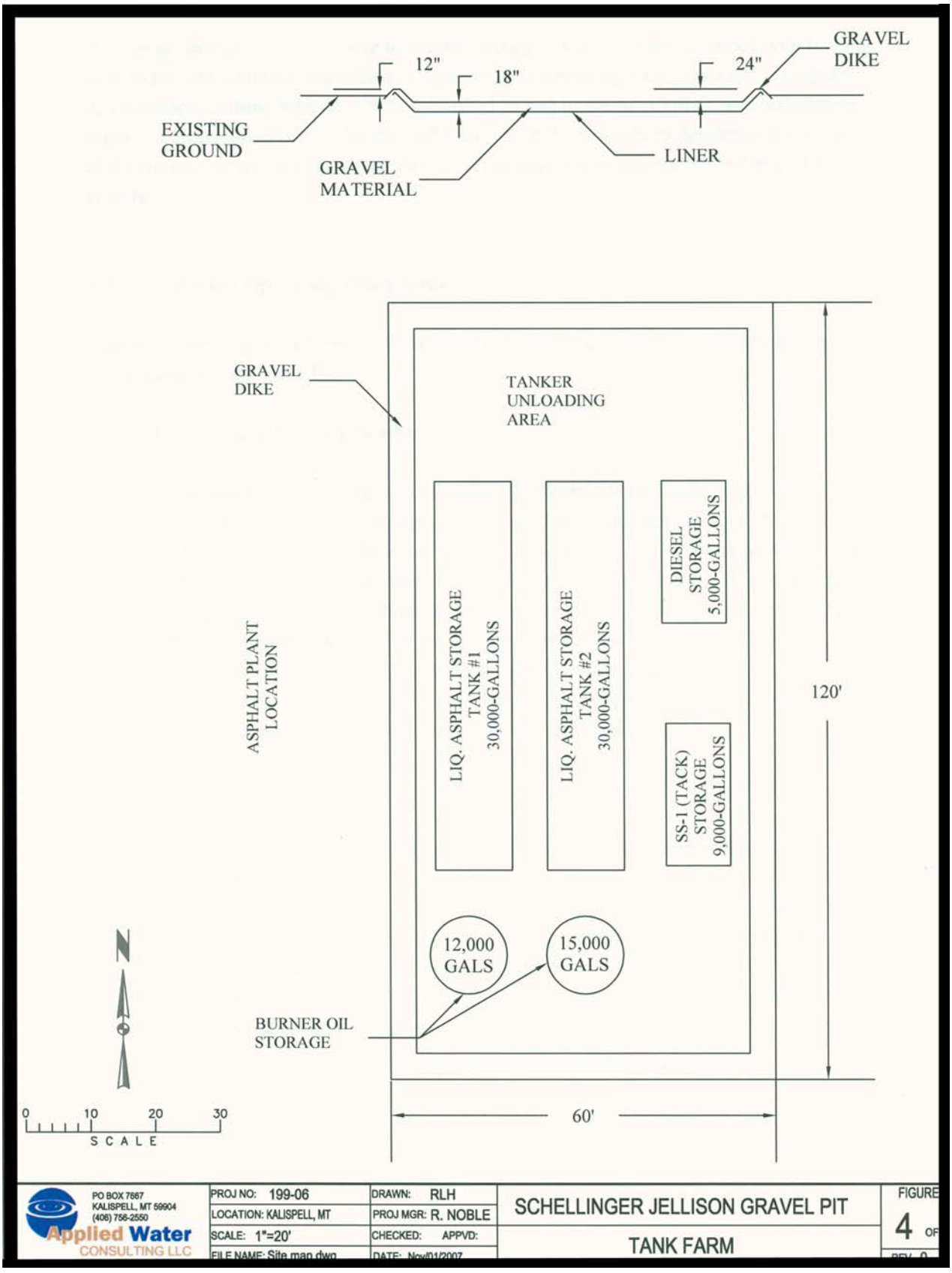


FIGURE 3 – TANK FARM



PROPERTY DESCRIPTION: Section 36, T30N, R21W, Flathead County

COMPANY NAME: Schellinger Construction, Jellison Site

DOES THE PROPOSED AGENCY ACTION HAVE TAKINGS IMPLICATIONS UNDER THE PPAA?

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deprive the owner of all economically viable uses of the property?
	X	4. Does the action deny a fundamental attribute of ownership?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? (If answer is NO, skip questions 5a and 5b and continue with question 6.)
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property?
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally? (If the answer is NO, skip questions 7a-7c)
		7a. Is the impact of government action direct, peculiar, and significant?
		7b. Has the government action resulted in the property becoming practically inaccessible, waterlogged, or flooded?
		7c. Has the government action diminished property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?

Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b.

If taking or damaging implications exist, the agency must comply with § 5 of the Private Property Assessment Act, to include the preparation of a taking or damaging impact assessment. Normally, the preparation of an impact assessment will require consultation with agency legal staff.